

## PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 04043PC/JW/LN	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2005/000169	International filing date (day/month/year) 09-02-2005	Priority date (day/month/year) 09-02-2004
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant Assa AB et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
- a. ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:
- ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand 09-09-2005	Date of completion of this report 25-01-2006
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Form PCT/IPEA/409 (cover sheet) (April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000169

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: Cover sheet

INTERNATIONAL PATENT CLASSIFICATION (IPC):

E05D 7/04 (2006.01)

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000169

## Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☐ the international application in the language in which it was filed  
☒ a translation of the international application into English  
 which is the language of a translation furnished for the purposes of:

- ☐ international search (Rules 12.3(a) and 23.1(b))  
☐ publication of the international application (Rule 12.4(a))  
☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☐ the international application as originally filed/furnished  
☒ the description:  
 pages 1-22 as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☒ the claims:  
 pages \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 pages\* 1-3 received by this Authority on 09-09-2005  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☒ the drawings:  
 pages 1-12 as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets/figs \_\_\_\_\_  
☐ the sequence listing (specify): \_\_\_\_\_  
☐ any table(s) related to the sequence listing (specify): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets/figs \_\_\_\_\_  
☐ the sequence listing (specify): \_\_\_\_\_  
☐ any table(s) related to the sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000169

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-14</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-14</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-14</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

The invention concerns a hinge as stated in the preamble of claim 1.

In order to make available a hinge that permits simple and reliable lateral adjustment in a direction perpendicular to the axis of the hinge and parallel to the plane of the door, and also simple attachment and removal of the door to and from the door frame, the hinge comprises an adjustable receiving part and a spring-actuated snap element as stated in the characterising part of the claim.

Cited documents:

D1: DE 4431799 C1

D2: WO 0184261 A1

From D1 is known a hinge of the kind stated in the preamble of claim 1 where the box (1) is capable of movement relative to the receiving part (2) through the external influence of an adjustment device in order to produce lateral adjustment of the box and the door in the plane of the door, perpendicular to the axis of the hinge. The hinge leaf is attached to the box with screws.

From D2 is known an adjustable hinge where a hinge leaf is attached to a receiving part which is movable for adjustment purposes. A spring-actuated snap element is arranged for detachable attachment of the position of the hinge leaf in the receiving part.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

No document discloses a hinge of the kind stated in the preamble including a snap element with a receiving part as stated in the characterising part of the claim.

As the hinge in claim 1 is new, is regarded to involve an inventive step, and also is industrially applicable, the patentability criteria are deemed to be met.

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# Claims

1. A hinge (3, 3') with a frame part (4, 204) and a door part (5), which door part exhibits a holding box (8, 8') for installation on a door (1) or equivalent and a hinge leaf (7, 207) capable of detachable attachment to the box, which box comprises a lateral recess (19) for the hinge leaf, and present in the box a receiving part (20, 20', 220) for the hinge leaf, characterized in that the box (8, 8') is capable of movement relative to the receiving part (20, 20', 220) through the external influence of an adjustment device (32, 232) in order to produce lateral adjustment of the box and the door in the plane of the door, perpendicular to the axis (A) of the hinge and in a spring-actuated snap element (39, 239) for the detachable attachment of the position of the hinge leaf (7, 207) in the receiving part, which receiving part exhibits a laterally projecting and preferably closable sleeve part (35) which accommodates the snap element.
2. A hinge as claimed in claim 1, in which the box (8, 8') and the receiving part (20, 20', 220) are designed in such a way, as to execute a rotating movement relative to one another about an axis parallel to the axis (A) of the hinge through actuation of the adjustment device (32, 232).
3. A hinge as claimed in claim 2, in which the adjustment device exhibits a screw (32) that is axially locked relative to the box (8, 8') and interacts with a nut part (28, 228), which, as the screw is rotated, produces the relative rotating movement by engagement with the receiving part (20, 20', 220).
4. A hinge as claimed in claims 2 or 3, in which the receiving part (20, 20', 220) exhibits projecting end journals (21, 22, 110) that are mounted in the box (8, 8') for the relative rotating movement.

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5. A hinge as claimed in claim 4, in which the receiving part (20, 20', 220) exhibits opposing side walls (26, 27) which define an interjacent channel (25) for the hinge leaf (7, 207), the outer surfaces of which side walls converge in a direction outwards from the axis of rotation of the receiving part.

6. A hinge in accordance with any of claims 1-5, in which the holding box (8, 8') is capable of moving adjustment relative to the receiving part (20, 20') in a direction parallel to the axis (A) of the hinge, in order to permit vertical adjustment of the door (1).

7. A hinge as claimed in claim 5, with a vertical adjustment device in the form of an eccentric element (44) capable of actuation from outside, and rotatably mounted in the box (8) perpendicularly to the axis (A) of the hinge, which eccentric element engages with a portion (21a) of the receiving part (20).

8. A hinge as claimed in claim 6, with a vertical adjustment device comprising a nut element (100) rotatably mounted in the box (8'), capable of actuation from the outside, and locked in the axial direction relative to the box in engagement with a threaded journal (110), which is supported against the hinge leaf (7), in conjunction with which, when the nut element is rotated on the journal, the vertical movement of the element is transferred to the box.

9. A hinge as claimed in claim 8, in which the journal (110) is capable of movement relative to the receiving part (20') in a direction parallel to the axis (A) of the hinge.

10. A hinge as claimed in claims 8 or 9, in which the journal (110) exhibits a flange (113) supported against the hinge leaf (7), which flange is accommodated and guided in a channel (111) provided for that purpose in the receiving part (20').

AMENDED SHEET



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11. A hinge as claimed in claim 10, in which the engagement of the flange (113) with the hinge leaf (7) is such that, when vertical adjustment of the door (1) in an upwards direction takes place through the  
5 actuation of an upper hinge nut element, a lower flanged hinge journal (110) accompanies the movement imparted to the door.

12. A hinge as claimed in one or other of claims 1-5, in which the hinge leaf (207) is movably adjustable  
10 relative to the frame part (204) in a direction parallel to the axis of the hinge in order to permit the vertical adjustment of the door.

13. A hinge as claimed in claim 12, in which the frame part (204) comprises a vertical adjustment device (270)  
15 that is capable of axial displacement in a frame knuckle (210b), by means of interacting threads, and a hinge pin (206) that is capable of displacement by the vertical adjustment device in an axial direction together with means (260) for transferring an axial  
20 movement imparted to the hinge pin to the hinge leaf (207).

14. A hinge as claimed in one or the other of claims 1-13, in which the holding box (8, 8') exhibits a corresponding, laterally projecting sleeve part (43) of  
25 larger dimensions in order to permit relative movement between the sleeve parts (35, 43) of the receiving part (20, 20', 220) and of the box (8, 8').